CAD2 IMAGINE QX64 Workstation

- Intel Core2 Extreme QX6700 (2.66GHz) (Quad Core)
- 4 x 1GB PC2-6400 800MHz memory
- Intel D975XBX2 Motherboard (Intel 975X Chipset)
- PNY Quadro FX 1500 Graphics Card (256MB)
- 2 x 150GB Western Digital Raptor drives (OS + Apps)
- 1 x 320GB Seagate Barracuda (Data)
- 18x Dual Layer Dual Format +/- DVD-ReWriter
- Microsoft Windows XP (32-bit or 64-bit)

The Intel core2 extreme QX6700 processor at the heart of CAD2's latest workstation isn't actually a native Quad Core processor; it's two 2.66GHz Core 2 Duo E7000 chips bolted together, each of which shares 4MB of Level 2 cache, giving 8MB in total. The end result is a chip that boasts excellent performance in multithreaded applications and impressive capacity for multi tasking, but, when all four cores are being hammered, outputs a fair amount of heat. As a result, those who have been spoilt by the near silent operation of most recent Intel Dual Core-based workstations may be a little disappointed when the CAD Imagine QX64's cooling fans kick into overdrive. It's not loud by any stretch of the imagination, but noticeable all the same.

This is a small price to pay for cutting edge performance which the Imagine QX64 has in abundance, making incredibly light work of scan line rendering in 3ds Max 9 and hardly raising an eyebrow when setting to work on concurrent cutting path calculations in Delcam's PowerMill. A total of 4GB of RAM makes this level of multi tasking possible, but for those working with much larger datasets, the machine can be equipped with a maximum of 8GB (4 x 2GB DIMMS) and of course Windows XP x64 Edition to unleash this additional capacity. (N.B. Both 32-bit and 64-bit versions of Windows XP Professional come with a free Microsoft Windows Vista upgrade pack)

The graphics card is the mid-range PNY Quadro FX 1500, which posted excellent scores under the mid-range CAD applications, SolidWorks 2005 and Inventor 11. Those that are used to working with OpenGL in 3ds Max may be disappointed to learn that Nvidia's dedicated Quadro Maxtreme 9 driver has now been optimised for Direct3D instead of OpenGL. As a result, OpenGL performance has taken a hit, which is sure to affect those who prefer to work in wireframe, an area where previous generation OpenGL Maxtreme drivers were strong. On the flip side, this is likely to add stability to DirectX, which is certainly the future of 3ds Max, though performance does not seem to have improved much over standard DirectX drivers.

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The Imagine QX64 is laden with storage options, which include an 8-in-1 Digital Memory Card Reader and 18x Dual Layer Dual Format +/- DVD-ReWriter. This is in addition to its two 150GB Western Digital Raptors, which are configured in a Level 0 Raid Array as a single high performance OS drive and a massive 320GB Seagate Barracuda 7200.10 S-ATA300 drive which is optimised for data storage.

The Black/Silver ATX Workstation chassis is solid and once the lid is off you can see the components are neatly wired throughout. There's still room for expansion in terms of additional hard drives and supplementary cards, however, with only a single CPU socket and capacity for four DIMM's, the ASUS P5WDG2 motherboard is already full to capacity - so if you're looking for a machine to grow into there are limited options here. In saying this though, a careful choice of memory at the outset and the fact that you've already got four extremely powerful processor cores at your disposal should ensure this workstation will serve your compute intensive requirements now and well into the future. This is with particular reference to growing datasets and 64-bit operating systems.

The Imagine QX64 is certainly an attractive proposition for those already working with multithreaded FEA, CFD or rendering applications and also provides an excellent platform on which to build concurrent engineering workflows. Whether your average CAD user will ever make use of all four cores is another question entirely and here a 2.66GHz Dual Core E6700, which drops into the same Intel LGA 775 slot, would be the better and more cost effective choice.

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